

Appl. No. 09/992,957
Amdt. dated July 2, 2004
Reply to Office action of April 8, 2004

AMENDMENTS TO THE CLAIMS

In the claims, please cancel claims 13-24 and 28-33, and amend claims 1-6, 9, 12 and 25-27 as follows:

1. (currently amended) A genetic immunization method to induce an antigen-specific immune response specific to an antigen in a mammal comprising:
 - a) providing a nucleic acid sequence encoding a peptide containing at least one antigenic determinant of said antigen, operatively linked to one or more control sequences such that said nucleic acid sequence is capable of being expressed in a host cell in said mammal[[,]];
b) wherein said nucleic acid sequence is optionally formulated formulating said nucleic acid sequence into a particle by complexation with one or more polymers, and;
c) injecting said nucleic acid sequence into a vessel connected to a tissue in said mammal; and,
d) elevating intravascular pressure and increasing vascular permeability, thereby delivering said nucleic acid sequence to an extravascular cell in said tissue, expressing said nucleic acid sequence in said cell and wherein said nucleic acid is delivered to a vertebrate host cell inducing said immune response.
 2. (currently amended) The method of claim 1, wherein said host extravascular cell is a lymphoid cell.
 3. (currently amended) The method of claim 2, wherein said host extravascular cell is a gut-associated lymphoid cell.
 4. (currently amended) The method of claim 2, wherein said host extravascular cell is a nasal lymphoid cell.
 5. (currently amended) The method of claim 1, wherein said delivery step is through intravascular administration wherein said extravascular cell consists of a liver cell.
 6. (currently amended) The method of claim 1, wherein said delivery step is through oral administration wherein said extravascular cell consists of a muscle cell.
 7. (original) The method of claim 1, wherein said nucleic acid is further protected by a coating.
 8. (original) The method of claim 7, wherein said coating is an enteric coating.
 9. (currently amended) The method of claim 8, wherein said coated nucleic acid is orally delivered 1 wherein said vessel consists of a tail vein.

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10. (original) The method of claim 1, wherein said sequence is a DNA sequence.
11. (original) The method of claim 10, wherein said DNA sequence is a plasmid.
12. (currently amended) The method of claim 1, wherein the host is a said mammal consists of a rodent.
- 13-24. (canceled).
25. (currently amended) A method of generating an antibody response in a vertebrate host rodent comprising: [[of]]
 - a) providing administering a nucleic acid encoding an antigen([,]); and,
 - b) injecting said nucleic acid optionally being complexed to a polymer, into a tail vein of said rodent thereby delivering said nucleic acid to a liver cell wherein said antigen is expressed and in an amount sufficient to induce the desired an immune response directed against the expressed antigen is induced;
26. (currently amended) A method of generating a cellular immune response in a vertebrate host comprising of administering a nucleic acid encoding an antigen, said nucleic acid optionally being complexed to a polymer, in an amount sufficient to induce the desired immune response directed against the expressed antigen.
The method of claim 25 wherein said nucleic acid is complexed to a polymer.
27. (currently amended) A method of generating a desired immune response in a vertebrate host comprising of administering a nucleic acid encoding an antigen, said nucleic acid optionally being complexed to a polymer, in an amount sufficient to induce the desired immune response directed against the expressed antigen, and said nucleic acid is delivered to the intestinal lumen.
The method of claim 26 wherein said rodent consists of a mouse.
- 28-33. (canceled)